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EXAMINER

WALKER, ZAKIYA NICOLE

ART UNIT	PAPER NUMBER
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3676

DATE MAILED: 08/30/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/605,177

Applicant(s)

BURR, BRUCE H.

Examiner

Zakiya N. Walker

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-65 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-30 and 32-65 is/are rejected.
- 7) ☒ Claim(s) 31 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 05022005, 04282005.

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Specification

1. The abstract of the disclosure is objected to because it is too long. Further, the term "the present invention" is stated in line 1, and the term "is disclosed" is stated in line 3. Correction is required. See MPEP § 608.01(b).
2. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

Claim Objections

3. Claims 26, 53, and 57 are objected to because of the following informalities:

Claim 26 should be amended to depend from claim 19.

Claims 53 and 57 should be amended to depend from claim 49.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1-4, 6, 7, 9, 12-14, 16-21, 23, 24, 26, 29, 30, 32-34, 49-52, 54, 55, 57, 60, 61, and 63-65 are rejected under 35 U.S.C. 102(e) as being anticipated by US 6,769,500.

US'500 discloses an apparatus that includes, with respect to claim 1, a drill bit, comprising: a spindle 117; a rolling cutter 116 positioned around said spindle, said rolling cutter having a seal recess 31 formed therein, said seal recess having an outer surface; and a lip seal 20 positioned in said seal recess and around said spindle, wherein at least one void (35, 37, 75) is established between said outer surface of said seal recess and an outer surface of said lip seal. With respect to its depending claims, the reference teaches the limitations as claimed. With respect to claim 19, the reference discloses an apparatus that includes a drill bit comprising: a spindle 117; a rolling cutter 116 positioned around said spindle, said rolling cutter having a seal recess 31 formed therein, said seal recess having an outer surface; and a lip seal 20 positioned in said seal recess and around said spindle, said lip seal and said seal recess being sized and configured to provide an interference fit between said lip seal and said seal recess when said lip seal is positioned in said seal recess, wherein at least one void (35, 37, 75) is established between said outer surface of said seal recess and an outer surface of said

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lip seal, said at least one void being adapted to be at least partially collapsed when said drill bit is subjected to hydrostatic pressure in a well bore. With respect to its depending claims, the reference teaches the limitations as claimed. With respect to claim 49, the reference discloses a method comprising: providing a drill bit comprised of: a spindle; a rolling cutter positioned around said spindle, said rolling cutter having a seal recess formed therein, said seal recess having an outer surface; and a lip seal positioned in said seal recess and around said spindle, wherein at least one void is established between said outer surface of said seal recess and an outer surface of said lip seal; positioning said drill bit in a well bore wherein said at least one void is at least partially collapsed when said drill bit is subjected to hydrostatic pressure in said well bore; and performing drilling operations with said drill bit. With respect to its depending claims, the reference teaches the limitations as claimed.

6. Claims 1-7, 9, 12-14, 16-24, 26, 29, 30, 32-34, 49-55, 57, 60, 61, and 63-65 are rejected under 35 U.S.C. 102(b) as being anticipated by GB 2,332,461 (cited by applicant).

GB'461 discloses an apparatus that includes, with respect to claim 1, a drill bit, comprising: a spindle 30; a rolling cutter 33 positioned around said spindle, said rolling cutter having a seal recess 39 formed therein, said seal recess having an outer surface; and a lip seal 51 positioned in said seal recess and around said spindle, wherein at least one void (near 45) is established between said outer surface of said seal recess and an outer surface of said lip seal. With respect to its depending claims, the reference teaches the limitations as claimed, including the outer surface of the seal recess

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comprising at least one concave surface (near 45). With respect to claim 19, the reference discloses an apparatus that includes a drill bit comprising: a spindle 30; a rolling cutter 33 positioned around said spindle, said rolling cutter having a seal recess 39 formed therein, said seal recess having an outer surface; and a lip seal 51 positioned in said seal recess and around said spindle, said lip seal and said seal recess being sized and configured to provide an interference fit between said lip seal and said seal recess when said lip seal is positioned in said seal recess, wherein at least one void (near 45) is established between said outer surface of said seal recess and an outer surface of said lip seal, said at least one void being adapted to be at least partially collapsed when said drill bit is subjected to hydrostatic pressure in a well bore. With respect to its depending claims, the reference teaches the limitations as claimed, including the outer surface of the seal recess comprising at least one concave surface (near 45). With respect to claim 49, the reference discloses a method comprising: providing a drill bit comprised of: a spindle; a rolling cutter positioned around said spindle, said rolling cutter having a seal recess formed therein, said seal recess having an outer surface; and a lip seal positioned in said seal recess and around said spindle, wherein at least one void is established between said outer surface of said seal recess and an outer surface of said lip seal; positioning said drill bit in a well bore wherein said at least one void is at least partially collapsed when said drill bit is subjected to hydrostatic pressure in said well bore; and performing drilling operations with said drill bit. With respect to its depending claims, the reference teaches the limitations as

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claimed, including the outer surface of the seal recess comprising at least one concave surface (near 45).

7. Claims 1-4, 6, 7, 9, 12-21, 23, 24, 26, 29-34, 49-52, 54, 55, 57, and 60-65 are rejected under 35 U.S.C. 102(b) as being anticipated by EP 0515780 (cited by applicant).

EP'780 discloses an apparatus that includes, with respect to claim 1, a drill bit, comprising: a spindle 30; a rolling cutter 33 positioned around said spindle, said rolling cutter having a seal recess 39 formed therein, said seal recess having an outer surface; and a lip seal 37 positioned in said seal recess and around said spindle, wherein at least one void ("c", Fig. 3) is established between said outer surface of said seal recess and an outer surface of said lip seal. With respect to its depending claims, the reference teaches the limitations as claimed, including the at least one void is a single void. With respect to claim 19, the reference discloses an apparatus that includes a drill bit comprising: a spindle 30; a rolling cutter 33 positioned around said spindle, said rolling cutter having a seal recess 39 formed therein, said seal recess having an outer surface; and a lip seal 37 positioned in said seal recess and around said spindle, said lip seal and said seal recess being sized and configured to provide an interference fit between said lip seal and said seal recess when said lip seal is positioned in said seal recess, wherein at least one void ("c", Fig. 3) is established between said outer surface of said seal recess and an outer surface of said lip seal, said at least one void being adapted to be at least partially collapsed when said drill bit is subjected to hydrostatic pressure in a well bore. With respect to its depending claims, the reference teaches the limitations as

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claimed, including the at least one void is a single void. With respect to claim 49, the reference discloses a method comprising: providing a drill bit comprised of: a spindle; a rolling cutter positioned around said spindle, said rolling cutter having a seal recess formed therein, said seal recess having an outer surface; and a lip seal positioned in said seal recess and around said spindle, wherein at least one void is established between said outer surface of said seal recess and an outer surface of said lip seal; positioning said drill bit in a well bore wherein said at least one void is at least partially collapsed when said drill bit is subjected to hydrostatic pressure in said well bore; and performing drilling operations with said drill bit. With respect to its depending claims, the reference teaches the limitations as claimed, including the at least one void is a single void.

8. Claims 1-4, 6-14, 16-21, 23-30, 32-43, 45-52, 54-61, and 63-65 are rejected under 35 U.S.C. 102(b) as being anticipated by US 6,357,540 (cited by applicant).

US'540 discloses an apparatus that includes, with respect to claim 1, a drill bit, comprising: a spindle 20; a rolling cutter positioned around said spindle, said rolling cutter having a seal recess 28 formed therein, said seal recess having an outer surface; and a lip seal 10 positioned in said seal recess and around said spindle, wherein at least one void ("f", Fig. 1A) is established between said outer surface of said seal recess and an outer surface of said lip seal. With respect to its depending claims, the reference teaches the limitations as claimed, including the outer surface of the lip seal comprising at least one concave surface 14, 16 having a radiused curvature, and a plurality of radiused protrusions 12. With respect to claim 19, the reference discloses an

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apparatus that includes a drill bit comprising: a spindle 20; a rolling cutter positioned around said spindle, said rolling cutter having a seal recess 28 formed therein, said seal recess having an outer surface; and a lip seal 10 positioned in said seal recess and around said spindle, said lip seal and said seal recess being sized and configured to provide an interference fit between said lip seal and said seal recess when said lip seal is positioned in said seal recess, wherein at least one void ("f", Fig. 1A) is established between said outer surface of said seal recess and an outer surface of said lip seal, said at least one void being adapted to be at least partially collapsed when said drill bit is subjected to hydrostatic pressure in a well bore. With respect to its depending claims, the reference teaches the limitations as claimed, including the outer surface of the lip seal comprising at least one concave surface 14, 16 having a radiused curvature, and a plurality of radiused protrusions 12. With respect to claim 35, the reference discloses a drill bit comprising: a spindle 20; a rolling cutter positioned around said spindle, said rolling cutter having a seal recess 28 formed therein, said seal recess having an outer surface and a plurality of corners (Fig. 2); and a lip seal 10 positioned in said seal recess and around said spindle, said lip seal having at least one outer concave surface 14, 16 and a plurality of protrusions 12 positioned proximate said outer concave surface, wherein said protrusions are adapted to at least partially engage said corners of said seal recess when said lip seal is positioned in said seal recess, and wherein at least one void ("f", Fig. 1A) is established between said outer surface of said seal recess and said at least one outer concave surface of said lip seal. With respect to its depending claims, the reference teaches the limitations as claimed. With respect to

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claim 48, the reference discloses a drill bit, comprising: a spindle 20; a rolling cutter positioned around said spindle, said rolling cutter having a seal recess 28 formed therein, said seal recess having an outer surface and a plurality of radiused corners (Fig. 2); and an elastomeric lip seal 10 positioned in said seal recess and around said spindle, said lip seal having an outer concave surface 14, 16 and a plurality of radiused protrusions 12 positioned proximate said outer concave surface, wherein said radiused protrusions are adapted to at least partially engage said radiused corners of said seal recess when said lip seal is positioned in said seal recess, and wherein a void is established between said outer surface of said seal recess and said outer concave surface of said lip seal. With respect to claim 49, the reference discloses a method comprising: providing a drill bit comprised of: a spindle; a rolling cutter positioned around said spindle, said rolling cutter having a seal recess formed therein, said seal recess having an outer surface; and a lip seal positioned in said seal recess and around said spindle, wherein at least one void is established between said outer surface of said seal recess and an outer surface of said lip seal; positioning said drill bit in a well bore wherein said at least one void is at least partially collapsed when said drill bit is subjected to hydrostatic pressure in said well bore; and performing drilling operations with said drill bit. With respect to its depending claims, the reference teaches the limitations as claimed.

Allowable Subject Matter


9. Claim 31 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Zakiya N. Walker whose telephone number is (571) 272-7039. The examiner can normally be reached on Monday-Friday, 8:30 AM-5 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Glessner can be reached on (571) 272-6843. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Zakiya N. Walker
Primary Examiner
Art Unit 3676

ZW
August 23, 2005